

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number  
**WO 2004/056418 A1**

(51) International Patent Classification<sup>7</sup>: **A61N 1/04**

(21) International Application Number: **PCT/IB2003/005481**

(22) International Filing Date: **24 November 2003 (24.11.2003)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:  
02080431.6 19 December 2002 (19.12.2002) EP

(71) Applicant (*for all designated States except DE, US*): **KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).**

(71) Applicant (*for DE only*): **PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH [DE/DE]; Stein-damm 94, 20099 Hamburg (DE).**

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **MUEHLSTAFFF, Jens [DE/DE]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). REITER, Harald [DE/DE]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). MONTVAY, Andras [DE/DE]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). LAUTER, Josef [DE/DE]; c/o Prof.**

(74) Agent: **SCHOUTEN, Marcus, M.; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).**

(81) Designated States (*national*): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.**

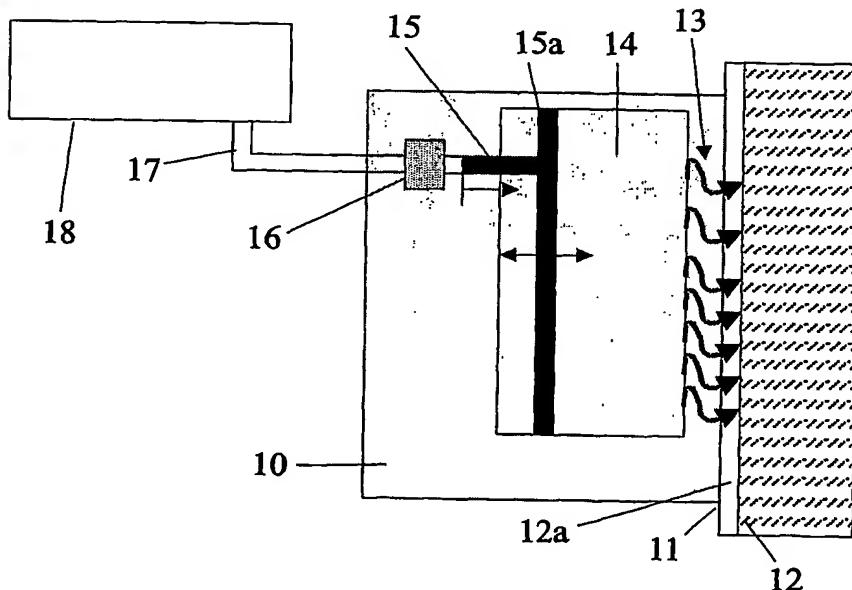
(84) Designated States (*regional*): **ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).**

## Published:

— with international search report

*[Continued on next page]*

(54) Title: AN ELECTRODE ASSEMBLY AND A SYSTEM WITH IMPEDANCE CONTROL



(57) Abstract: An electrode assembly arranged to change the impedance of the skin area (12a, 12) under the contacting surface (11) of the electrode (10). For this purpose the body of the electrode (10) comprises the impedance control means (14) arranged to discharge an amount of the electrolyte from a depot (14). This can be controlled by the discharge means (16) arranged to induce a force of the depot (14). Preferably, the discharge means operate with an ignitable pressurized gas (15) or with settable fibers. The electrode 10 is provided with pores (13) to conduct the electrolyte from the depot (14) to the inter space (12a) between the contacting surface (11) and the receiving area of the skin (12).



*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*